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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,571	09/22/2003	Shinji Eritate	03500.017563	6449
5514	7590	05/16/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			MRUK, GEOFFREY S	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	

2853

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/665,571

Applicant(s)

ERITATE ET AL.

Examiner

Geoffrey Mruk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 21 November 2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "at least one material" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Also, the Examiner notes it is unclear which metal atoms are measured in the phrase "with respect to a number of moles of the total metal atoms in the piezoelectric film forming composition".

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Sandhu et al. (US 6,099,604).

With respect to claim 1, Sandhu discloses a composition (Fig. 3) for forming a piezoelectric film (Fig. 3, element 60; Column 7, lines 46-61) containing a dispersoid (Fig. 3, element 140) obtained from a metallic compound (Column 5, lines 30-35), the composition comprising at least one of 1,8-diazabicyclo [5.4.0]-7-undecene, 1,5-diazabicyclo [4.3.0] non-5-e-ne, and 1,4-diazabicyclo [2.2.2] octane (Column 5, lines 60-67).

With respect to claim 2, Sandhu discloses the metallic compound is an organometallic compound (Column 5, lines 30-59).

With respect to claim 4, Sandhu discloses comprising at least one of elements Pb, La, Zr and Ti as a constituent element (Column 7, lines 46-61).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyata (6,109,738) in view of Sandhu (6,099,604).

1. With respect to claim 5, Miyata discloses a method for producing a piezoelectric element (Fig. 2b, element 300) comprising:

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- a step of coating a substrate with a piezoelectric film forming composition containing a dispersoid obtained from a metallic compound;
- a step of drying said coated film; and
- a step of sintering said dried film to obtain a piezoelectric film (Column 11, lines 20-57).

However, Miyata fails to disclose at least one of 1,8-diazabicyclo [5,4,0]-7-undecene, 1,5-diazabicyclo [4.3.0] non-5-ene, and 1,4-diazabicyclo [2.2.2] octane to form a coated film.

Sandhu discloses a composition (Fig. 3) for forming a piezoelectric film (Fig. 3, element 60; Column 7, lines 46-61) containing a dispersoid (Fig. 3, element 140) obtained from a metallic compound (Column 5, lines 30-35), the composition comprising at least one of 1,8-diazabicyclo [5.4.0]-7-undecene, 1,5-diazabicyclo [4.3.0] non-5-e-ne, and 1,4-diazabicyclo [2.2.2] octane (Column 5, lines 60-67).

At the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the teachings of Sandhu with the piezoelectric film forming method of Miyata. The motivation for doing so would have been to "increase the polishing rate of semiconductor wafers" (Column 2, lines 41-45).

2. With respect to claim 6, Miyata discloses a piezoelectric element (Fig. 2b, element 300) including a piezoelectric film (Fig. 2b, element 70) provided between a lower electrode (Fig. 2b, element 60) and an upper electrode (Fig. 2b, element 80), wherein said piezoelectric film is prepared by a method according to claim 5.

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3. With respect to claim 7, Miyata discloses an ink jet recording head (Fig.1) comprising

- a pressure chamber (Fig. 1, element 12) communicating with an ink discharge port (Fig. 1, element 11),
- a vibration plate (Fig. 1, element 50) provided corresponding to said pressure chamber, and
- a piezoelectric element (Fig. 2b, element 300) according to claim 6, provided corresponding to said vibration plate, wherein ink in said pressure chamber is discharged from said ink discharge port by a volume change in said pressure chamber caused by said piezoelectric element (Column 13, lines 49-61).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koch et al. (US 4,428,859) discloses a stabilizer commonly referred to as DABCO which "is a good electron transfer free radical scavenger because it has a low oxidation potential and forms a relatively stable radical cation" (Column 2, lines 33-35).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is (571) 272-2810. The examiner can normally be reached on 7am - 330pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GSM  
5/5/2005

GM

  
5/12/05  
**MANISH S. SHAH**  
**PRIMARY EXAMINER**